# Climate Change, Agriculture and Food Security: Identifying Research Needs and Priorities in East Africa

## Climate risk management

- Development of tools to assess impacts of climate change on crop yields, livestock production and fish at the local level e.g. APSIM and AQUACROP tools;
- Improve and downscale seasonal forecasts and climate predictions;
- Timely, reliable and user friendly delivery of seasonal forecasts that effectively address the demands of the farmers;
- Identification and documentation of local traditional risk-management strategies;
- Integration and communication of indigenous technical knowledge (ITK) and scientific weather forecasting and early warning systems;
- Diversification for risk management and index-based financial risk transfer for crops and livestock.

## Adaptation

- Crop and livestock breeding, and improvement of livestock feed resources for future climate;
- Integrated pest and disease management;
- Mapping risks for targeting appropriate crop and livestock adaptation technologies;
- Use of climate scenarios, spatial and temporal analogues for designing adaptation strategies in agriculture

## Research Needs & Priorities

## Mitigation

- Sustainable agricultural intensification strategies through sustainable land management , and agro-forestry;
- Test institutional options and incentives for mitigation across socially differentiated groups and gender;
- Quantification of greenhouse gas (GHG) emissions to inform mitigation interventions.

## Linking knowledge to action

- Communication and social learning approaches and knowledge networks for scaling up climate smart agricultural technologies;
- Processes, approaches and tools to enhance science-policy dialogue and promote evidence-based policy outcomes through the Regional Learning Partnership (RLP)

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CLIMATE CHANGE AGRICULTURE AND FOOD SECURITY



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